U.S. FISH AND WILDLIFE SERVICE
SPECIES ASSESSMENT AND LISTING PRIORITY ASSIGNMENT FORM

SCIENTIFIC NAME: *Ivesia webberi*

COMMON NAME: Webber's ivesia

LEAD REGION: Region 8

INFORMATION CURRENT AS OF: October 2005

STATUS/ACTION
___ Species assessment - determined we do not have sufficient information on file to support a proposal to list the species and, therefore, it was not elevated to Candidate status
___ New candidate
_X__ Continuing candidate
___ Non-petitioned
_X__ Petitioned - Date petition received: May 11, 2004
__ 90-day positive - FR date:
__ 12-month warranted but precluded - FR date:
__ Did the petition request a reclassification of a listed species? No
FOR PETITIONED CANDIDATE SPECIES:
a. Is listing warranted (if yes, see summary of threats below)? Yes
b. To date, has publication of a proposal to list been precluded by other higher priority listing actions? Yes
c. If the answer to a. and b. is "yes", provide an explanation of why the action is precluded.

The petition received in May 2004 to list all 225 candidate species, including *Ivesia webberi* as an endangered species under the Endangered Species Act, was largely based on the present or threatened destruction, modification, or curtailment of its habitat or range, disease or predation, the inadequacy of existing regulatory mechanisms, and other natural or manmade factors affecting its continued existence (Center for Biological Diversity (CBD) *et al.* 2004). In addition, the petitioners state that these species have been on the candidate list for 17 years or more, and such delays have contributed to the extinction of many non-listed species (CBD *et al.* 2004). We considered the information contained in the petition in this assessment; however, no new substantive data on *I. webberi* was presented.

We find that the immediate issuance of a proposed rule and timely promulgation of a final rule for this species has been, for the preceding 12 months, and continues to be, precluded by higher priority listing actions (including candidate species with lower LPNs). During the past 12 months, almost our entire national listing budget has been consumed by work on various listing actions to comply with court orders and court-approved settlement agreements, emergency listings, and essential litigation-related, administrative, and program management functions. We will continue to monitor the status of this species as new information becomes available. This review will determine if a change in status is warranted, including the need to make prompt use of emergency listing procedures. For information on listing actions taken over the 12 months,

see the discussion of "Progress on Revising the Lists," in the current CNOR which can be viewed on our Internet website (http://endangered.fws.gov/).

___ Listing priority change
Former LP: ___
New LP: ___

Date when the species first became a Candidate (as currently defined): June 13, 2002

___ Candidate removal: Former LPN: ___

___ A – Taxon is more abundant or widespread than previously believed or not subject to the degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status.

___U – Taxon not subject to the degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status due, in part or totally, to conservation efforts that remove or reduce the threats to the species.

___ F – Range is no longer a U.S. territory.

___ I – Insufficient information exists on biological vulnerability and threats to support listing.

___ M – Taxon mistakenly included in past notice of review.

___ N – Taxon does not meet the Act's definition of "species."

___ X – Taxon believed to be extinct.

ANIMAL/PLANT GROUP AND FAMILY: Flowering Plants, Rosaceae (Rose Family)

HISTORICAL STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Nevada and California

CURRENT STATES/COUNTIES/TERRITORIES/COUNTRIES OF OCCURRENCE: Lassen, Plumas, and Sierra Counties, California; Douglas and Washoe Counties, Nevada

LAND OWNERSHIP: The eight Nevada populations of *I. webberi* occur on a total of about 30 ac (12 ha) on Federal lands managed by the USFS, Humboldt Toiyabe National Forest (69.8 percent), BLM, Carson City District (0.9 percent), and private lands (29.3 percent). The seven California populations occur on a total of about 156 ac (63 ha), on lands managed by the USFS, HTNF (84.9 percent), BLM, Susanville District (0.5 percent), California Department of Fish and Game (0.1 percent), and private or county lands (14.5 percent).

LEAD REGION CONTACT: Diane Elam (CNO) (916) 414-6464

LEAD FIELD OFFICE CONTACT: Steve Caicco, Nevada FWO, &775)861-6341; Roberta Gerson, Sacramento FWO, (916) 414-6630

BIOLOGICAL INFORMATION

Species Description. *Ivesia webberi* is a low, spreading, perennial herb that occurs very infrequently in Lassen, Plumas, and Sierra counties in California, and in Douglas and Washoe Counties, Nevada. The species has greenish-gray foliage with dark red, wiry stems. The leaves are mostly clustered around the base of the stems, with 4-8 pairs of leaflets crowded at the tip,

and are generally covered with long, silky grayish hairs. The inflorescence is a capitate or subcapitate cyme with 5-15 yellow flowers per group. The whole plant becomes reddish-tinged late in the season. Flowering typically begins in May and extends through June (Witham 2000).

Taxonomy. J.G. Lemmon discovered *I. webberi* in Sierra Valley, Plumas County, California, in 1872, and Asa Gray described it as a new species in 1874. Green (1887) included it in *Potentilla*, whereas Rydberg (1898) treated it as *Horkelia*. Keck (1938) resolved the taxonomy and returned this species to the genus *Ivesia*. The generic distinction between *Ivesia*, *Potentilla*, and *Horkelia* has been unclear. Some experts may combine the three or keep them separate while recognizing them as heterogeneous and overlapping (Ertter 1989). This does not, however, negate the validity of *I. webberi* as a distinct species, regardless of its generic treatment (Witham 2000). Current information on taxonomic validity was reviewed on the Jepson Flora Project website; *Potentilla basaltica* is the accepted name for a taxon native to California valid taxonomic name (http://ucjeps.berkeley.edu/cgi-bin/get_cpn.pl?29467&expand=1); website accessed on October 31, 2005).

Habitat/Life History. *Ivesia webberi* is restricted to sites with sparse vegetation and shallow, rocky soils composed of volcanic ash or derived from andesitic rock. Occupied sites generally occur on mid-elevation flats, benches, or terraces on mountain slopes above large valleys and are devoid of colluvial (loose deposit of rock debris) accumulation from upslope. The species generally occurs between 4,480 and 5,950 feet elevation (1,365 to 1,814 meters). This vernally moist, but otherwise dry and rocky habitat is typically dominated by a wide variety of cushion-like perennial herbs with low sagebrush (*Artemisia arbuscula*) and squirrel-tail grass (*Elymus elymoides*) (Witham 1991, 2000). The unique soils and hydrology of the *I. webberi* sites may exclude competition from other species (Witham 2000). The shrink-swell of the clayey subsoils favors taprooted perennials and shallow-rooted, early annuals. The clayey soils and early spring saturation tend to exclude typical Great Basin species (Witham 2000).

The range of the species lies along the transition zone between the eastern edge of the northern Sierra Nevada and the northwestern edge of the Great Basin Desert (Witham 2000). This region is characterized by the climatic influences of high mountains within and adjacent to the high desert, with ponderosa and Jeffrey pine (*Pinus ponderosa* and *P. jeffreyi*, respectively) in the mountains and sagebrush steppe dominating the valleys (Witham 2000).

Historical Range/Distribution. Extensive field surveys for *I. webberi* were conducted between 1990 and 1998 to verify and refine historical reports, locate any additional populations, and document the biology, ecology, and conservation status of the species (Witham 2000). These data, together with information obtained from surveys performed in support of the 2000 status report, documented one new and seven historic, extant populations in Nevada and seven historic, extant populations in California. One historic site in Nevada (Pyramid Lake) is presumed erroneous, and three historic populations in California (American Valley, Indian Valley, and Webber Lake) are presumed extirpated or erroneous.

Current Range/Distribution. Currently seven populations are known from Nevada and eight populations from California. The 15 currently known occurrences are clustered in seven general

locations covering about 185 acres (ac) (75 hectares (ha)). In Washoe County, Nevada, five of the eight populations are clustered around north Reno, near the Peavine and Raleigh Heights areas, which are experiencing tremendous population growth. These sites were visited in May 2002, with subsequent visits to two sites in 2004, and they continue to be subject to threats associated with urban expansion (Joanne Baggs, U.S. Forest Service (USFS), pers. comm. 2002, 2004). The Douglas County population is somewhat disjunct and occurs in the Pine Nut Mountains adjacent to U.S. Highway 395.

Four of the seven California populations occur in eastern Sierra County on Federal lands managed by the USFS, Humboldt-Toiyabe National Forest (HTNF) in and around Dog Valley. The type locality is in Sierra Valley, Plumas County, and two sites occur in Lassen County in Evans Canyon and Constantia (Witham 2000).

Surveys of approximately 4,000 ac (1,619 ha) of potential habitat in western Washoe County and in the Pine Nut Mountains in Douglas County, Nevada, documented no additional populations of the species. An unknown amount of potential habitat remains unsurveyed in Nevada. However, field observations indicate the likelihood of discovering any significant populations is low. In California, the western rim of Upper Long Valley in Sierra County is the only area supporting high quality potential habitat that has not been surveyed (Witham 2000).

Population Estimates/Status. The global population totals approximately 4.8 million individuals at 15 known sites. The Nevada sites support nearly 98 percent of the total number of individuals (4.7 million) on about 30 ac (12 ha) of occupied habitat. The California sites are larger in area, totaling about 156 ac (63 ha), but support fewer individuals (approximately 115,000) (Witham 2000). In general, all of the HTNF sites visited by Witham in 1991 appeared to be stable in 2000 (Witham 1991, 2000). All of the known occurrences of *I. webberi* are presumed extant; however, more extensive surveys would be required to determine population trends.

DISTINCT POPULATION SEGMENT (DPS) Not Applicable.

THREATS

A. The present or threatened destruction, modification, or curtailment of its habitat or range. Threats to *I. webberi* generally include urban development, authorized and unauthorized roads, off-road vehicle activities and other dispersed recreation, livestock grazing and trampling, fire and fire suppression activities including fuels reduction and prescribed fires, and displacement by noxious weeds (USFS 2001). Evidence of impacts from these types of use has been documented at the majority of *I. webberi* populations (Witham 2000).

The species occurs in immediate proximity to rapidly growing urban areas in the foothills of the Sierra and in the western Great Basin near Reno, Nevada. As such, development is currently the greatest threat to *I. webberi* populations on private lands. At the time of the 1997-1998 field surveys, sites supporting three of the eight known Nevada populations were identified for low-density housing development. A fourth site occurs adjacent to a recently developed high-density housing project and is subject to impacts associated with human use. Witham (2000) observed

that three sites on private lands had been fenced perhaps to protect the species; however, the proximity to newly graded roads and development indicates that these sites are highly imperiled. Rapidly increasing residential development, commercial development, and infrastructure improvements around the Reno area are significant, imminent threats to five of the eight Nevada populations (Witham 2000; J. Baggs, pers. comm. 2002). At least three of the California populations are threatened by private or municipal development. Two different sites on private lands face a significant, imminent threat from development and maintenance of utilities. In addition, dispersed recreation by residents with immediate access to these areas continues to increase, resulting in disturbance and fragmentation of habitat (Witham 2000).

Most of the *I. webberi* populations occur on or adjacent to dirt roads, which are prominent features of the eastern California and western Nevada landscape. Authorized and unauthorized roads present a serious threat to all of the populations on public lands as they contribute to increased off-road activity and habitat fragmentation. All but one of the extant populations, including the type locality in Sierra Valley, is affected by road development, maintenance, and associated off-road vehicle activity. This is considered a significant, imminent threat to six of the eight populations in Nevada and two of the California populations. Long-term population viability is at risk without focused planning of authorized roads, decommissioning of unauthorized roads, and the cooperation of land users (Witham 2000; J. Baggs, pers. comm. 2002). National Forests are in the process of revising their management plans; a road management strategy that would restrict vehicles to designated routes is being considered. If implemented and enforced, this may mitigate the magnitude of threat to the species.

On Federal lands, livestock grazing is the dominant resource use within the range of this species. While the relatively sparse, low vegetation of most *I. webberi* sites may not be optimal for grazing, the lack of topography makes these sites attractive for allotment operators to install various range modifications, which likely concentrate trampling (Witham 2000). At least two of the populations in Nevada and three of the populations in California are affected by livestock trampling and associated activities (USFS 2001; Witham 2000).

Ivesia webberi habitats are generally conducive to establishment of staging areas for fire suppression activities because they are relatively flat and accessible (Witham 2000). Under these circumstances, plants are trampled, soils are disturbed or compacted, and the probability of an invasion by nonnative species is high. Evidence of impacts from these activities has been observed at two populations in Nevada and two populations in California (Witham 2000; USFS 2001). As the urban interface continues to expand into wildland areas, fire suppression activities required to protect human life and property will intensify, increasing the threats to the species and its habitat (Witham 2000).

Generally, undisturbed *I. webberi* habitat is resistant to invasion by nonnative species. However, on sites where range improvements and/or disturbance associated with recreation or development have occurred, cheatgrass (*Bromus tectorum*) and medusahead (*Taeniatherum caput-medusae*) are becoming established and may eventually displace native plant species (Witham 2000; USFS 2001).

B. Overutilization for commercial, recreational, scientific, or educational purposes. No known threats.

C. Disease or predation. Heavy grazing by cattle and sheep contributes to reduced vigor and may lead to extirpation of populations of this species. Plant size, number of leaf and flower stems, and number of viable fruit have been observed to be much reduced in areas that are heavily grazed compared to average plants (USFS 1992). Neither the USFS nor BLM include specific conservation measures for this species in grazing permits for allotments where this species occurs (Witham 2000; Dean Tonenna, BLM, pers. comm. 2002).

D. The inadequacy of existing regulatory mechanisms. Prior to 1996, *I. webberi* was considered a category 2 candidate for listing under the Endangered Species Act, as amended (Act). In 1996, we revised the method by which species are categorized to strengthen the scientific basis of the endangered species program. The revised candidate list replaced a system that identified nearly 4,000 candidate species under three categories. Under the revised list, only those species for which enough information to support a listing proposal existed (category 1) were maintained as candidates (61 FR 7595). As a category 2 candidate, *I. webberi* was removed from candidate status because of the lack of sufficient information to support a proposal for listing at that time.

The BLM and USFS have designated *I. webberi* as a sensitive species in both California and Nevada (Weixelman and Atwood 1991; D. Tonenna, pers. comm. 2002). Both the BLM and USFS are directed to manage for sensitive species and their habitats and consider these resources during project planning (BLM Manual 6840 and Forest Service Manual 2670 *et seq*.); however, no specific management guidelines to ensure the conservation of this species currently exist.

Because of a narrowly restricted range and existing threats, the participants of the 2000 and 2001 Nevada Rare Plant Workshop, sponsored by the Nevada Native Plant Society, recommended that the State of Nevada consider the species for listing as critically endangered under Nevada Revised Statutes (NRS) 527.270 *et seq*. The species was State-listed under the NRS in January 2004. Under State law, permits for the disturbance of habitat or taking of individuals must be obtained from the Nevada Division of Forestry. The adequacy of this law depends greatly on informed and cooperative landowners and land managers or some form of deterrent enforcement, which the current NRS do not articulate.

Ivesia webberi is designated as threatened by the Nevada Native Plant Society, and is on the California Native Plant Society's (CNPS) 1B list (plants considered rare, threatened, or endangered in California and elsewhere). All plant species on the CNPS 1B list meet the definitions under the Native Plant Protection Act (Sec. 1901, Chapter 10) and the California Endangered Species Act (Secs. 2062 and 2067) of the California Department of Fish and Game Code, and are eligible for State listing. The species is not listed by California under its State Endangered Species Act, but plants on the CNPS 1B list must be fully considered during the environmental documentation process under the California Environmental Quality Act (CEQA) (Skinner and Pavlik 1994). However, CEQA only requires disclosure of a project's impacts on the species; it does not provide protective management for *I. webberi*.

E. Other natural or manmade factors affecting its continued existence. *Ivesia webberi* may be vulnerable to stochastic perturbations, natural climatic shifts, or unprecedented climatic extremes due to its small, localized populations and its apparent adaptation to unusual edaphic conditions (Witham 2000). The population biology of this species remains relatively unstudied, and the importance of insect pollinators to successful reproduction is unknown. Therefore, fragmentation or losses of habitat through any of the threats discussed above may affect the long-term viability of potential pollinators as well as the species itself.

CONSERVATION MEASURES PLANNED OR IMPLEMENTED

Currently, no formal conservation strategies or agreements exist for *I. webberi*. The USFS is developing a strategy to protect this species on its lands. The intent is to produce a conservation agreement, which may include identifying parcels for potential land exchanges and developing and implementing a monitoring program across the species' range. A conservation strategy for *Ivesia aperta* var. *canina* (Dog Valley ivesia) is in draft form, and in this geographic area, *I. aperta* var. *canina* and *I. webberi* are sympatric. Therefore, despite differences in habitat preferences between the two species, the final conservation strategy may benefit the Dog Valley population of *I. webberi*. Because of the proximity of several of the other sites to the urban interface, specific conservation measures should be developed, such as public education efforts, road closures and rehabilitation, and limitations and enforcement of off-highway vehicle activities.

SUMMARY OF THREATS (including reasons for addition or removal from candidacy, if appropriate)

Threats to species include off road vehicle activity and residential development and, to a lesser extent, fire suppression activities, trampling and grazing by domestic livestock, invasive species, and stochastic factors..

For species that are being removed from candidate status:

___Is the removal based in whole or in part on one or more individual conservation efforts that you determined met the standards in the Policy for Evaluation of Conservation Efforts When Making Listing Decisions (PECE)?

RECOMMENDED CONSERVATION MEASURES

A conservation strategy for *Ivesia webberi* that includes management protocols for all populations on public lands and identifies populations on private lands critical to the conservation of the species on private lands, if any. A long-term monitoring plan should be developed and implemented.

LISTING PRIORITY

THREAT			

Magnitude	Immediacy	Taxonomy	Priority
High	Imminent	Monotypic genus	1
		Species	2
		Subspecies/population	3
	Non-imminent	Monotypic genus	4
		Species	**5**
		Subspecies/population	6
Moderate to Low	Imminent	Monotypic genus	7
		Species	8
		Subspecies/population	9
	Non-imminent	Monotypic genus	10
		Species	11
		Subspecies/population	12

Rationale for listing priority number:

Magnitude: Observations in 2002 and 2004 confirmed that direct and indirect impacts to *I. webberi* specifically from urban development and off-highway vehicle activity remain high and continue to increase. The expanding human population and associated activities mostly around the Reno area in Nevada poses the greatest threat to this species because of the proximity of the plant populations to the urban fringe.

Imminence: Threats to *I. webberi* from development, off-highway vehicle activity, and other land uses remain non-imminent at this time; however, these types of uses are becoming more of a concern as the human population expands. Proposals for new residential and commercial development are on the rise in areas immediately adjacent to occupied and potentially suitable habitat for *I. webberi*. These and other ongoing activities within the urban fringe, if allowed to take place unchecked, would continue to impact the species and its habitat. *Ivesia webberi* was recently listed as critically endangered by the State of Nevada, and through their permitting process, increased awareness regarding the species and the sensitivity of its habitat should be achieved thereby preventing these threats from becoming imminent.

Rationale for Change in Listing Priority Number (insert if appropriate)

___ Have you promptly reviewed all of the information received regarding the species for the purpose of determining whether emergency listing is needed? Yes

Is Emergency Listing Warranted? No. As stated above, we are working with the USFS to develop a strategy to protect this species on HTNF lands. The intent is to produce a conservation agreement, which would include a commitment to developing and implementing a monitoring program.

DESCRIPTION OF MONITORING

To date, no organized monitoring efforts have been implemented to track *I. webberi*. We have recommended to the USFS that the strategy incorporate a monitoring protocol that will quantify habitat characteristics as they relate to habitat quality and the effects of grazing, no grazing, recreational activities, and other land uses in the area. The strategy should also include, but not be limited to, a monitoring schedule, key management questions, measurable success criteria, and a reporting schedule.

Regular monitoring would provide data necessary to evaluate population stability and health and effectiveness of specific habitat restoration and management activities. Potential problems, such as invasion by nonnative species and impacts from fire and fire management activities, could be identified and addressed in a timely manner. Qualitative methods, such as standardized photo points or presence/absence surveys, can offer important information regarding habitat conditions, expansion and/or declines of existing populations, or discovery of new populations (CNPS 1999).

COORDINATION WITH STATES

Indicate which State(s) (within the range of the species) provided information or comments on the species or latest species assessment: Nevada and California.

Indicate which State(s) did not provide any information or comments:

LITERATURE CITED

California Native Plant Society. 1999. Livestock Management Proposal for USDA Forest Service Sierra Nevada Framework Project. California Native Plant Society, Sacramento, California. 23 pp.

Center for Biological Diversity, J. Goodall, E.O. Wilson, P. Ehrlich, J. Terborgh, N. Eldredge, T. Eisner, R. Hass, B. Kingsolver, C. Bowden, M. Sheen, the Xerces Society, and Biodiversity Conservation Alliance. 2004. Petition to list 225 plants and animals as endangered species under the Endangered Species Act. Submitted to the Secretary of Interior, May 11, 2004.

Duron, W. 1990. Survey of Historic Locations for *Ivesia webberi* on the Plumas and Tahoe National Forests. Unpublished report prepared under a challenge cost share project between The Nature Conservancy and the Plumas and Tahoe National Forests. 18 pp. plus appendices.

Ertter, B. 1989. Revisionary Studies in *Ivesia* (Rosaceae: Potentilleae). Systematic Botany 14(2):231-244.

Gray, A. 1874. Contributions to the botany of North America. Proceedings of the American Academy of Arts and Sciences 10:39-78.

Green, E.L. 1887. West American phases of the genus *Potentilla*. Pittonia 1:95-106.

Rydberg, P.A. 1898. A monograph of the North American Potentilleae. Memoirs Department Botany Columbia College 2:1-233.

Skinner, M.W. and B.M. Pavlik, eds. 1994. Inventory of Rare and Endangered Vascular Plants of California. Special Publication No. 1 (Fifth Edition). California Native Plant Society, Sacramento, California. 338 pp.

U.S. Forest Service. 1992. Interim Management Guide for *Ivesia aperta* var. *aperta*, *Ivesia aperta* var. *canina*, *Ivesia sericoleuca*. Pacific Southwest and Intermountain Regions: Tahoe, Plumas, and Toiyabe National Forests. 24 pp.

U.S. Forest Service. 2001. Biological Assessment for the Amendment to the Land and Resource Management Plan, Humboldt-Toiyabe National Forest for the Northern Sierra Area. Carson Ranger District, Humboldt-Toiyabe National Forest. 41 pp.

Weixelman, D. and D. Atwood. 1991. Toiyabe National Forest sensitive plant field guide. U.S.D.A. Forest Service, Intermountain Region. Ogden, Utah.

Witham, C. W. 1991. Focused Field Survey: *Ivesia webberi*, Webber's Ivesia, Toiyabe National Forest, Sierra County, California, and Washoe County, Nevada, June 3-27, 1991. Unpublished report prepared for the Toiyabe National Forest. 17 pp. plus appendices.

Witham, C.W. 2000. Current Knowledge and Conservation Status of *Ivesia webberi* Gray (Rosaceae), the Webber Ivesia, in Nevada. Unpublished status report prepared for the Nevada Natural Heritage Program and U.S. Fish and Wildlife Service. 33 pp. plus appendices.

APPROVAL/CONCURRENCE: Lead Regions must obtain written concurrence from all other Regions within the range of the species before recommending changes, including elevations or removals from candidate status and listing priority changes; the Regional Director must approve all such recommendations. The Director must concur on all resubmitted 12-month petition findings, additions or removal of species from candidate status, and listing priority changes.

Approve: /s/ Paul Henson April 26, 2006
Acting CNO Manager, Fish and Wildlife Service Date

Concur: _____ August 23, 2006
Acting Director, Fish and Wildlife Service Date

Do not concur: _____
Director, Fish and Wildlife Service Date

Date of annual review: October 2005
Conducted by: Steve Caicco